

KYLE, DAVID LEWIS, Ed.D. The Impact of Youth Adapted Sport on Physical Activity of Adults with Disabilities. (2019)
Directed by Dr. Pam K. Brown and Dr. Michael A. Hemphill. 87 pp.

People with disabilities are significantly less physically active than those without disabilities, primarily due to a lack of adequate adapted programs, which can lead to a variety of negative health consequences. Although physical activity typically decreases during the transition to adulthood, studies have shown that quality targeted youth programs positively influence physical activity levels into and through adulthood. The few communities that offer programs for youth with disabilities tend to focus on competitive adapted sports. It is not well known how these programs influence physical activity levels into adulthood. The purpose of this mixed methods study was to determine the influence of participation in formal youth adapted sport on physical activity and the motivation to exercise after the transition to adulthood for people with disabilities. Fifty adults with disabilities (16 female, 34 male) were surveyed in order to measure current physical activity levels and motivation to exercise, along with their perceptions of what they received from participating in youth adapted sport. Twelve adults with disabilities (4 female, 8 male) participated in an interview to describe their perceptions of youth adapted sport experiences and how they relate to their current level of physical activity. Results show that 50% participated in some form of youth adapted sport with the most popular being wheelchair basketball, while 85% of adults participate in individual activities. Of those interviewed, it was perceived that it had a significant impact leading to an overall active lifestyle with a focus on enjoyment, health, and preventing disability progression.

THE IMPACT OF YOUTH ADAPTED SPORT ON PHYSICAL ACTIVITY
OF ADULTS WITH DISABILITIES

by

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A Dissertation Submitted to
the Faculty of The Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

Greensboro
2019

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ACKNOWLEDGMENTS

I want to express my gratitude to the faculty at UNCG for pushing me to be my best and for their patience with me throughout this journey. I will never forget you and the impact you have made on my life. To my cohort, this would not be possible without your support and encouragement. I look forward to continuing our relationship in the future. To my wife, Heather, and children, Alex, Noah, and Zoe, words cannot express how much I appreciate and value the sacrifices you have made for me while undertaking this journey.

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CHAPTER I

PROJECT OVERVIEW

People with disabilities are significantly less physically active than those without disabilities, which can lead to a variety of negative health consequences (Froehlich-Grobe et al., 2016). The results of this inactivity lead to multiple secondary conditions with heart disease being the number one cause of death (Horner-Johnson, Dobbertin, Lee, & Andresen, 2013; Forman-Hoffman, et al., 2015; Froehlich-Grobe, Lee, & Washburn, 2013). People without disabilities typically learn valuable motor skills and an appreciation for being active in their youth through sport and other recreational programs (Wolman & Fraser-Thomas, 2017; Murphy, Rowe, & Woods, 2016). However, people with disabilities experience many barriers to becoming more physically active, primarily due to a lack of adequate recreational and adapted sport programs (Rimmer & Rowland, 2008). Although physical activity typically decreases during the transition to adulthood, studies have shown that quality targeted youth programs positively influence physical activity levels into and through adulthood (Ahmed, Ho, Zazed, Van Niekerk, & Jong-Young, 2016; Kjønniksen, Anderssen, & Wold, 2009; Telama, Xiaolin, Hirvensalo, & Raitakari, 2006; Wichstrom, von Soest, & Kvaalem, 2013). Conversely, ineffectively designed and conducted youth programs have a negative impact on future physical activity levels due to things such as poor coaching or inappropriate fixation on winning (Cardinal, Yan, & Cardinal, 2013). The few communities that offer programs for people

with disabilities, tend to focus on competitive adapted sports. It is not well known if these programs positively or negatively influence physical activity levels into adulthood. Failing to address the influence adapted sport can have on youth with disabilities leaves us without knowledge of its impact on them as adults.

Youth with disabilities are disproportionately underserved by recreation and adapted sport programs (Rimmer & Rowland, 2008). This lack of available programming contributes to higher inactivity levels in youth with disabilities, which persists after the transition to adulthood. Providing adapted sport programs is a critical feature of an equitable society (Soffer & Almog-Bar, 2016). However, it is important to identify methods and practices that benefit individuals from a long-term health perspective. Providing low-quality adapted sport experiences to youth with disabilities has the potential to reduce health-enhancing physical activity, a condition that could continue into adulthood.

Background Literature

People with disabilities are 2.5 times more likely to be inactive (Healthy People 2020) than those without disabilities, and youth with disabilities are 4.5 times more inactive than non-disabled youth (Rimmer & Rowland, 2008). Approximately 47% of adults with disabilities are obese, which is 10% higher than adults without disabilities (Healthy People 2020). In general, the activity level of people with disabilities is inadequate to prevent diseases and other chronic conditions stemming from inactivity (Forman-Hoffman, et al., 2015; Froehlich-Grobe, Lee, & Washburn, 2013; Horner-Johnson, Dobbertin, Lee, & Andresen, 2013). Physical activity typically decreases as

youth transition into adulthood, but studies have shown that targeted programs can reverse that trend and create physical activity persistence (Murphy, Rowe, & Wood, 2016). However, people with disabilities typically do not experience these benefits because of limited opportunities to participate in adapted sport or other recreational activities as youth (Rimmer & Rowland, 2008). Current adapted sport coaching methods do not address the complexity of living with a disability, but rather are based on the physical function limitations and their impact specific to a particular sport. Little attention is given to the motivation required to be physically active in an at-risk population with such a high need for increased physical activity (Burkett, 2013; Townsend, Smith, and Cushion, 2015).

Most people learn valuable motor skills and an appreciation for being active at an early age through sport and physical activity and carry these qualities with them into adulthood (Wolman & Fraser-Thomas, 2017; Murphy, Rowe, & Woods, 2016). However, people with disabilities typically do not experience this due to significant personal and environmental barriers and few or no opportunities to participate in sport or other physical activities as a youth (Rimmer & Rowland, 2008). Further, as youth transition to adulthood, inactivity increases (Ahmed et al., 2016; Kaigang et al., 2016; Larouche, Laurencelle, Shephard, & Trudeau, 2012). As a result, people with disabilities are not getting enough physical activity to prevent sedentary-related diseases and other chronic conditions arising from inactivity (Horner-Johnson, Dobbartin, Lee, & Andresen, 2013; Forman-Hoffman, et al., 2015; Froehlich-Grobe, Lee, & Washburn, 2013). In fact, the leading cause of death for people with disabilities is heart disease (Forman-Hoffman,

et al., 2015). However, it is reported that reaching youth with targeted physical activity programs like sport does increase physical activity and this increase persists into adulthood (Murphy, Rowe, & Woods, 2016).

Outside of Adapted Physical Education at school, community-based adapted sport programs are a primary method of attaining health-enhancing physical activity, but these programs are rare. For example, the most popular adapted sport, wheelchair basketball, has only 83 youth (combined primary/secondary school) teams in the US (NWBA, 2019). U.S. Paralympics, a division of the U.S. Olympic Committee (USOC), is recognized by the International Paralympic Committee and is responsible for sending elite US teams in 27 different sports to the Paralympic games (USOC, 2019). As a grass-roots effort, it promotes the creation and development of local Paralympic Sport Clubs and currently there are 171 programs in 46 states (USOC, 2019). These are mostly located in larger cities, some cities having several programs, and consist of a mixture of community-based and hospital-based programs. Approximately 40% of the participants reported served are 18 and under. Identifying a program as a Paralympic Sport Club isn't difficult and the number of programs being reported can be misleading. For example, in the 2017 report, the two programs located in the state of Mississippi only served a combined 4 people under 18 years old (Tableau, 2019). In addition, hosting only one weekend program during a calendar year can qualify a program as a club.

Consistently, the motivators cited by participants for engaging in sport and physical activity are that they find these activities to be interesting, challenging, and enjoyable. Self-determination theory (SDT) refers to this as “intrinsic motivation” (Ryan

et al., 2009). This type of motivation is more likely to lead to long term behavioral changes (Ryan & Deci, 2000). Increased adapted sport opportunities that foster intrinsic motivation, can likely benefit youth with disabilities by encouraging a more sustained participation in sport and physical activity (Calvo, Cervello, Jimenez, Iglesias, & Murcia, 2010; Teixeira, Carraça, Markland, Silva, & Ryan, 2012). The social experience of sport creates conditions that could result in barriers or facilitators to intrinsic motivation (Ryan et al., 2009). In addition, the greater the autonomy that one experiences during sport participation, the more likely it is that they will persist during obstacles, will perform better, and have a more positive experience specific to the sport or physical activity (Ryan et al., 2009). In contrast, placing excessive performance pressure on athletes or attempting to control behavior compromises the social experience and the sense of autonomy, which decreases intrinsic motivation and thus, willingness to continue to participate, (Ryan et al., 2009).

Thus, coaches should attempt to create conditions that facilitate intrinsic motivation in regards to sport participation. Doing so serves the athlete outside of competitive environments by enabling the participants to enact key tenets of SDT in other realms of their lives (Perreault & Vallerand, 2007). There is also a link between autonomy-supportive coaching and its positive impact on improving daily moderate-to-vigorous physical activity (MVPA). Coach-provided autonomy support was positively associated with MVPA and negatively associated with sedentary time. This suggests that a coaching style based in SDT does indeed positively influence daily physical activity patterns outside of the sport setting (Fenton et al., 2014). However, much of the current

coaching-focused literature on coaching people with disabilities is based on physiology and the physical function limitations and their impact specific to particular sports. Little attention is given to the motivation required to be physically active in an at-risk population with such a high need for increased physical activity (Burkett, 2013).

The current adapted sport coaching literature is centered on the physical function-based medical model and is the dominant method used to frame adapted sport coaching (Townsend, Smith, and Cushion, 2015). The existing literature does little to address the complexities of living with disabilities and still does not incorporate the relevant and appropriate psychological theories into proposed practices (Spence and Oades, 2011). SDT should be adopted as a theoretical framework for coaching since it can be helpful at different levels of coaching practice and provides a foundation to ensure the health and wellbeing of athletes. Adapted sport during youth, if done properly, can be used as a facilitator to increase lifelong physical activity among people with disabilities. As shown, there is evidence that this is possible in a physical activity setting utilizing the SDT framework, but there is limited research specific to adapted sport and adapted sport coaching.

Purpose Statement

The purpose of this study was to determine the influence of participation in formal youth adapted sport on physical activity and the motivation to exercise after the transition to adulthood for people with disabilities.

My specific aims were to:

Aim #1 – Determine the relationship between participating in youth adaptive sport and current physical activity habits and levels of motivation to exercise in adults with disabilities.

Aim #2 - Describe the perceptions of youth adapted sport experiences and its influence on current physical activity levels and motivation to exercise in adults with disabilities.

Methods

A mixed methods study design was used to address the purpose and aims. To address aim 1, adults with disabilities were surveyed to determine experiences in youth adapted sport and current physically activity and motivation levels. To gather more in-depth information for aim 2, adults with disabilities were interviewed about their experiences in youth adapted sport programs.

Participants

After acquiring Institutional Review Board approval, participants were recruited through email and in-person at various adapted sport competitions for both survey and interview participation (see Appendix A, B, C, & D).

Survey Participants. Adapted sport governing bodies and community programs provided assistance by sending the recruiting email to their membership. After providing informed consent, participants completed an online survey (Appendix E, F, & G) utilizing Qualtrics software. All participant were at least 21 years old or older and had a physical disability such as (but not limited to) spina bifida, cerebral palsy, paraplegia, or amputations. Those with intellectual disabilities were not included. The final sample

consisted of 50 female ($n = 16$) and male ($n = 34$) participants. The age range was 21-69 years ($M = 39.22$ years; $SD = 11.27$).

Interview Participants. Participants for the interviews were a purposeful sample from those who participated in youth adapted sport and also are currently regularly physically active. Each participated in a one-on-one semi-structured interview (Appendix H). The final sample consisted of 12 female ($n = 4$) and male ($n = 8$) participants. The age range was 24-55 years ($M = 38$ years; $SD = 8.34$). All of the interview participants were a previous or current adult athlete competing at the collegiate or elite level in a Paralympic Sport (Appendix I). Participants were given a pseudonym for the interview in order to maintain their privacy.

Measures

Survey. The survey included demographic information, items on youth adapted sport participation, and two established questionnaires that measure 1) current physical activity levels and 2) motivation to exercise. In addition, several open-ended questions were included on perceptions of what they received from participating in youth adapted sport and reasons they do or do not participate in physical activity as an adult. (see Appendix E, F, & G for full survey)

International Physical Activity Questionnaire. Physical activity was assessed using an adapted version of the self-administered International Physical Activity Questionnaire (IPAQ) (Booth, 2000; Hagströmer, Oja, & Sjöström, 2006; Hallal & Victora, 2004). The IPAQ short form is comprised of a set of six questions that can be self-administered and measures total vigorous and moderate intensity physical activity.

Time spent walking was modified to include wheelchair propulsion and time spent sitting was excluded in this study due to potential wheelchair users being asked to report sitting time. The IPAQ short form has shown acceptable reliability and validity with an adult age range of 15–69 years and has been used successfully among adults with disabilities (Saebu & Sørensen, 2011).

The IPAQ asks about activities specific to four domains which include leisure time physical activity, domestic and gardening activities, work-related physical activity, and transportation-related physical activity. This information is needed since non-disabled adult physical activity levels have been shown to be higher in those who participated in youth sports. Thus, it is important to see if this holds true in a population with disabilities.

Behavioral Regulation in Exercise Questionnaire-3. Motivation to exercise was assessed with the previously-validated Behavioral Regulation in Exercise Questionnaire-3 (BREQ-3) (Markland & Tobin, 2004; Moustaka F.C, Vlachopoulos S.P, Kaperoni M, Vazou S, & Markland D.A, 2010; Wilson, et al., 2006). The BREQ-3 is a 24-item questionnaire that measures motivation for exercise based on SDT (Deci & Ryan, 1985, 1991). The BREQ-3 provides scores for motivation levels along the SDT continuum from amotivation (no motivation) through extrinsic, introjected, identified and integrated to the most self-determined form – intrinsic motivation. The BREQ-3 also provides an index of the degree of self-determination, called the Relative Autonomy Index (RAI) calculated by subtracting the more extrinsic forms (extrinsic, introjected) from the more intrinsic forms (integrated, identified, intrinsic) (Ryan & Connell, 1989). Higher, positive scores indicate

greater relative autonomy while lower, negative scores indicate more controlled regulation.

Open-ended questions. Several open-ended questions were included to better understand adult's perceptions of the benefit they received from participating in youth adapted sport. Questions also focused on their current reasons for choosing to participate or not participate in physical activity as an adult. Examples of the open-ended questions used include "What types of Adapted Sport did you participate in as a youth?", "What did you get out of the Adapted Sport Experience? -Was it fun, positive, negative, etc.?", "What types of physical activities do you currently participate in?", and "What prevents you from being more physically active?". Open-ended questions were inductively analyzed in order to discover any existing themes among them. This process included reading through each answer and identifying the major theme(s) given and common between them. Themes were identified, labeled, and counted based on their core concepts and consistencies (Appendix J).

Interview. After acquiring IRB approval, a pilot test with one participant was conducted for the interview questions prior to the formal study. Adults with disabilities were interviewed by asking open-ended questions concerning their experiences as a youth playing adapted sport. The interviews were recorded and consisted of 14 neutral, open-ended questions. (Appendix H). Several prompts were prepared with each question to encourage participants to discuss issues that may not immediately come to mind. These questions were grouped in three categories to better understand 1) their current physical activity level as an adult, 2) their physical activity experiences as a youth, and 3) how

those experiences relate to their current level of physical activity. Examples of the questions used in each category include “At this stage in your life, tell me what being physically active means to you”, “What did the coach do to make it fun and enjoyable, or not fun and enjoyable when you participated in youth adapted sport?”, and “Do you feel that there are any connections to how active you are now to the activities you participated in as a youth?”. The focus of these interviews was to understand how youth adapted sport helped them individually, what types of experiences were had, and how it influences their current physical activity and motivation levels.

Each interview was audio recorded and transcribed verbatim. During the interview, the author also took handwritten notes which were then included in the data analysis process. Elements of inductive and deductive analysis were employed in order to discover patterns and themes in the data and also to address pre-determined research questions. This process included reading participants answers to each question several times in order to identify major themes common to that question. Themes were identified for each question and labeled based on their core consistencies and the concepts. (Merriam, 2009; Patton, 2002) (Appendix K). Using the phenomenological research tradition, the shared experiences between the subjects and the core meaning of their perspectives and experiences were recorded (Kvale & Brinkmann, 2009).

Results

Survey Results

Twenty-five (50%) of the survey participants ($n = 50$) reported having participated in some form of adapted sport as a youth. From those that did participate, the

most popular youth adapted sport was the team sport, wheelchair basketball (35%), with track and field (15%), swimming (14%), and handcycling (14%) being the next most popular sports. Other sports that were played, yet not as popular, included Boccia (7%), snow skiing (5%), wheelchair tennis (4%), sled hockey 2%), rowing (2%), and archery (2%) (Figure 1). Each of these adapted sports are part of the International Paralympic Committee program (IPC, 2019).

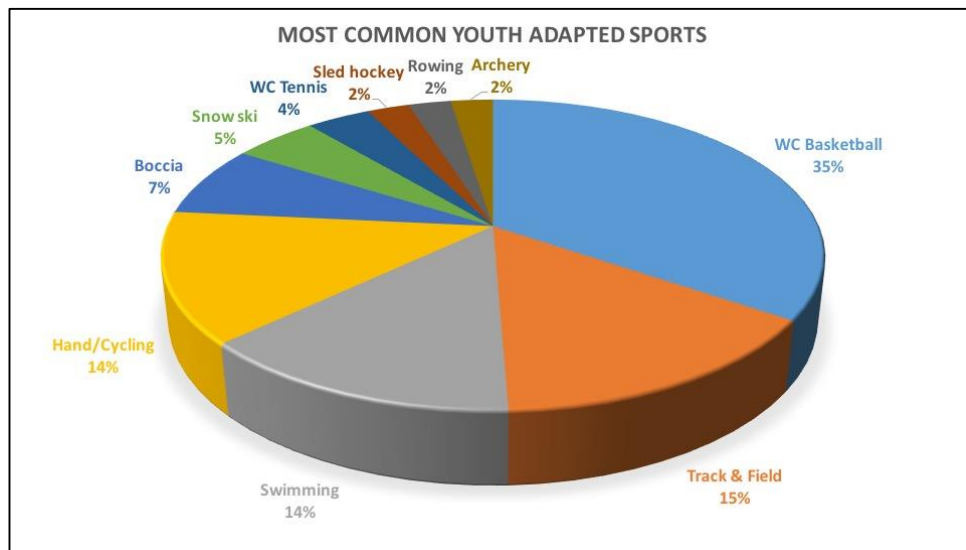


Figure 1. Most Common Youth Adapted Sports

Adult participants in this study were very physically active compared to the typical population of adults with disabilities and felt that it was very or extremely important for them to be so. They were asked to identify how physically active they were using a 5-point Likert scale with 1 being not at all active and 5 being extremely active ($M = 3.74$; $SD = 1.226$). They were asked how important it is to be physically active with 1 being not at all important and 5 being extremely important ($M = 4.34$; $SD = .798$).

BREQ-3/IPAQ Results. Results from the IPAQ showed that survey participants were in the moderate physical activity category ($M = 2.39$; $SD = .759$), with 54% of the participants in the high (3.0) physical activity category. IPAQ MET-minutes per week total scores were also high ($M = 4127.10$; $SD = 3856.27$). Results from the BREQ-3 showed a high positive number for the RAI score ($M = 13.52$; $SD = 7.02$). There was a significant relationship between scores on the BREQ-3 and scores on the IPAQ ($r = 0.458$; $p = 0.01$) (Appendix L).

A one-way between subjects ANOVA was performed to compare the effect of participating or not participating in youth adapted sport on the RAI scores of the BREQ-3 and MET-total scores of the IPAQ (Table 1). No significant differences were found (MET-total, $F(1, 46) = 0.678$, $p = .415$; RAI, $F(1, 42) = 2.007$, $p = .164$). However, it was found that those who did not participate in youth adapted sport generally scored higher on the BREQ-3 and IPAQ.

Table 1

Comparison of Participants and Non-Participants in Youth Adapted Sport

	<u>Descriptives</u>	<u>Participants</u>	<u>Non-Participants</u>	<u>F</u>	<u>Sig.</u>
MET-total	<i>Mean</i>	3715.2	4643.6	.678	.415
	<i>SD</i>	3449.6	4344.8		
RAI	<i>Mean</i>	12.1	15.1	2.007	.164
	<i>SD</i>	7.5	6.3		

Open Ended Questions. 85% of the adults surveyed are currently participating in non-team sport activities (Figure 2). When asked why they choose to be active or not now as an adult, four major themes appeared: health, social, fun, and barriers (Appendix I).

For example, participants wrote “I feel better when I am active- physically, socially and emotionally”, “being active will help me to continue being healthy”, “gives me a social outlet”, and “I want to remain as mobile and independent as possible as I grow older”. Comments based on barriers included “surgeries...caused my independence and mobility to decrease”, “There is little to NO programming for physical activities for adults with disabilities”, and “I haven’t been active...I’ve been pretty busy with other things”.

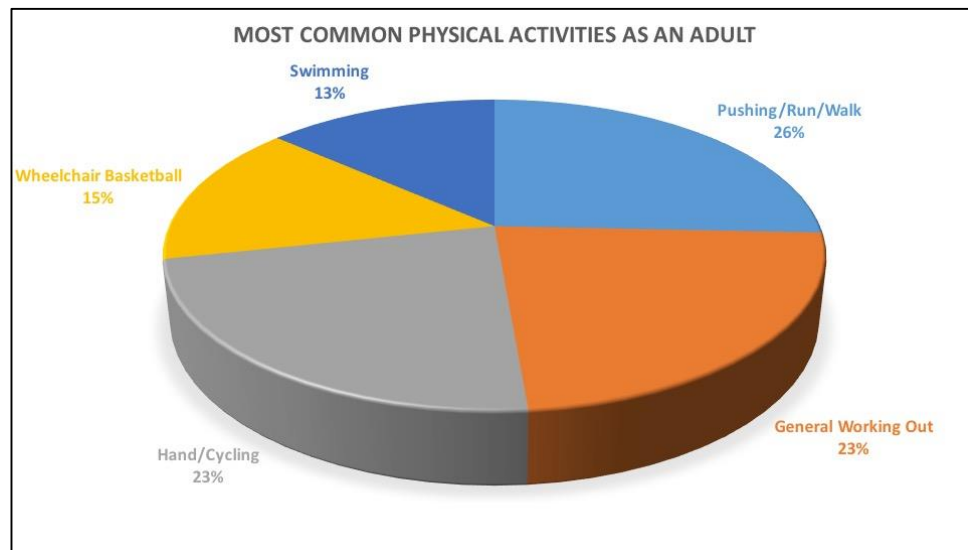


Figure 2. Most Common Adult Physical Activities

Participants were asked about the types of facilitators that would encourage them to be more physically active. Two primary themes appeared from this question: remaining healthy and the social/competitive aspects of what they participate in. Answers included “I want to avoid secondary conditions”, “To improve and maintain my health”, “My desire to live a long and health life”, “To remain mobile and independent”, “I’ve made some great friends”, “Commitment to a team”, and “Having friends who refuse to

let me be inactive”. They were then asked about the types of barriers preventing them from being more physically active. The majority of respondents (50%) mentioned lack of time as their biggest barrier. Disability itself and secondary health conditions were also mentioned along with access issues. Access issues typically included a lack of local programs near them, but high costs and transportation issues were also mentioned.

To better address aim #1, participants were asked what did they get out of their youth adapted sport experiences. Two major themes developed, which were the fun and social aspects. Most participants gave one or both of these answers, but it should be noted that one participant listed some negative aspects when answering this question. He felt that his disability was more severe than his teammates, which led to less playing time and not being fully accepted. To provide some example responses, participants wrote that “sport helped me to make friends and gave me confidence”, “I was introduced to some great mentors”, “very fun and I’ve made a lot of friends”, “I made friends who were like me”, and “I had fun, gained confidence and friends”.

Interview Results

The results of the interview (Appendix K) closely match the results of the open-ended questions, yet new concepts appeared and others were strongly reinforced.

Current Physical Activity As An Adult. The major themes in this section of the interview show that the health and social aspects are meaningful concepts of how adults with disabilities feel about physical activity and help explain why they participate. They choose to primarily engage in individual activities, like working out in a fitness center, yet most of the participants received instruction on how to do these activities in a team

sport environment. In fact, many used weight room workouts as an ancillary to their team sport participation earlier in their life. When asked about how they got involved with their current choice of physical activity, all respondents mentioned a program or facility close to their home that provides adapted physical activities. It's important to note that the participants had been very physically active for most of their lives. This fact seemed to lead to the common theme of trying to maintain their health. Since they had experienced high levels of fitness as a youth and young adult, they understood the practical costs needed to stay healthy and they enjoyed being at a high level of fitness. For example, Elizabeth stated:

I was being less active now than I was previously; and I'm like, oh wow, I can feel a difference. Like, I just don't feel as good, and I feel these little things about my disability that I hadn't really noticed before. You're like, okay, that's why you need to keep doing this. And that's why you need to stay active. Because it does give you so much more mobility than you would have otherwise had.

Physical Activity Experiences As A Youth. Ten of the twelve participants played wheelchair basketball during their youth. Other adapted sports played matched the survey participants with wheelchair tennis, track and field, swimming, cycling, and sled hockey being mentioned. When asked how they got involved with these particular activities, each stated that they had access to a local program that offered adapted sport activities. Fun and competition were the largest reasons stated for how participating in adapted sport made them feel. Also, it was mentioned often that participation gave them a sense of normalizing their disability. This was done by being surrounded by other youth and adults with disabilities in a competitive sport environment. They were encouraged

and pushed to be better and challenged to continually increase their skill level which made them feel like a legitimate athlete. The people most responsible for influencing them were their adapted sport coaches and the program directors-administrators managing local programs. Even as a youth, they understood the sacrifices and volunteerism of these individuals who were championing adapted sport.

Relating Youth Experiences To Adulthood Physical Activity. Every interview participant believed that participating in youth adapted sport positively influenced them and led them to be more active as an adult. A common theme in this part of the interview was that sport and/or physical activity became a normal part of their lifestyle early on. The competitive outlet was also mentioned because it kept the activities interesting, provided a larger social outlet, and created lifelong relationships. Even though team competition was mentioned as being important to them during their youth, most of the participants are now mainly involved in individual activities, with a larger focus on their personal health.

For example, Sarah stated:

When you're born with a disability, the odds are kind of already against you because everyone is going to have health issues as they age. That's the part of having disabilities, those odds are stacked even more against you, because as you age, you are also going to have health problems, and then on top of that, there are always going to be complications and obstacles to overcome because you're disabled. So, the quicker that you can get active and make that a lifestyle, the easier things are going to be for you down the road.

Closing Questions. One of the main themes that came up during the closing set of questions was the increased opportunities that came from participating in youth

adapted sport. Several of the participants played wheelchair basketball at the collegiate level. Most of the participants attended college and graduated, some with Master's degrees. At least five of the participants had been a member of Team USA for international competitions and two had been to the Paralympics. Some were still involved with youth adapted sport either as a coach or mentor and many had jobs in therapeutic, recreational, or physical activity contexts.

A final theme that emerged from the interviews was that of parental involvement and influence. This theme also ties into the concept of access, because living near available programs, being able to afford equipment and travel costs, and having consistent transportation to activities is necessary for frequent and continued participation as a youth. Some parents drove their young athletes 1.5 hours one way to practices twice each week; plus, to tournaments, which were often out of state. Adequate finances and job flexibility were required for this to occur. Parents were usually the ones responsible for finding out which programs were available and this often involved searching and networking with others in their community. For many of the interview participants, their parents were doing this with limited online resources. Participants also noted that their parents had high expectations for them, forced them to learn independence, and included them in family physical activities.

Discussion

The results of this research can provide practical advice for youth adapted sport programs and can provide understanding of what aspects may provide positive and/or negative experiences. This research shows that the current methods of available youth

adapted sport programming are providing an overall positive long-term influence on its participants. The primary determinant for the majority of the study participants as a youth was having access to local programs and being able to afford them. Wheelchair basketball is the most common youth adapted sport and the NWBA is the largest IPC organization in the US. However, with only 83 youth teams in the US (NWBA, 2019), there simply aren't enough programs of this kind to accommodate the need of the population. Model programs do exist and most of the research participants utilized them, but they are typically only located in larger cities (Lakeshore, 2019; LWSRA, 2019). Public schools could also play a role in expanding the reach of adapted sports and some states have that option with Georgia and Maryland leading the way (Hendrix, 2014). Other states don't have the resources for stand-alone adapted sport or only allow limited inclusive competition in sports such as track and field which often leads to competitors participating alone at meets (AHSAA, 2019).

The main barrier for adults with disabilities was not having enough time, but many participants noted the lack of, or the long distances, to programs and some lacked the transportation or finances required to participate. This presents a barrier that cannot be overcome by any one individual and requires a concerted effort by adapted and IPC sport organizations along with universities and community-based organizations to offer more local programs. This seems to be especially important for people with congenital disabilities as those who become disabled later in life may have an existing activity context to pull from. Lack of access and other barriers found in this research have been well studied previously and this research adds to that (Rimmer & Rowland, 2008).

Outside of access issues, only one interview participant had a negative experience due to a lack of playing time during team sports. However, it is important to note, that this participant is still involved with physical activity and adapted sport as an adult.

This research found no clear statistical relationship between youth adapted sport participation and current physical activity habits and levels of motivation to exercise in adults with disabilities. This may have been due to recruiting participants from existing adapted sport organizations which provided a very physically active sample that is not typical among most people with disabilities (Forman-Hoffman, et al., 2015). The participants were highly motivated and very active which provides evidence on adapted sports' influence and the positive experiences it provides. Further, the overwhelming majority of participants felt that it had a permanent impact on their lives as an adult.

CHAPTER II

DISSEMINATION

The plan for dissemination is to give a presentation to the junior division coaches of the National Wheelchair Basketball Association (NWBA). The largest adapted sport in the US is wheelchair basketball and the participants of this research listed it as the sport most participated in during their youth regardless of their preferred activities as an adult. Thus, the rationale for collaborating with the NWBA is because they are connected to youth with disabilities; thereby providing a large platform for dissemination. The dissemination will focus explicitly on the findings in the current study along with the latest data concerning disability and implications for current practice.

There is a junior division meeting each year at the NWBA annual assembly where a large percentage of junior coaches and program directors gather. A request will be made to give an oral presentation and slide show (Appendix M). which provides a general overview of the current study and its findings. In addition, the presentation can be recorded and made available as a webinar to individuals that could not attend the assembly. This webinar can easily be made available through the NWBA website and the junior coaches social media site. The goals of the presentation are to 1) Provide an overview of the complexities of disability, 2) Describe how youth adapted sport makes a positive impact, 3) Provide an overview of the current study and its findings, 4) Detail

what the league is currently doing good, and 5) Offer suggestions for improvement moving forward.

Presentation Script

Complexities of Disability

Slide 1 and 2. Hello, I am David Kyle, a doctoral candidate at The University of North Carolina at Greensboro. I'm also the director of the Ability Sport Network at The University of Alabama in Huntsville where I have operated a Junior-Varsity wheelchair basketball team for the past 3 seasons. Also, at UAH, I am a faculty-lecturer and teach our Adapted class to future professionals. I have a vested interest in what we do as coaches and program directors participating in the NWBA and my goal is to strengthen our organization as we move forward.

Slide 3. People with disabilities are significantly less physically active than those without disabilities, which leads to a variety of negative health consequences and multiple secondary conditions with heart disease being the number one cause of death. People with disabilities are 2.5 times more likely to be inactive than those without disabilities and youth with disabilities are 4.5 times more inactive than non-disabled youth. Youth with disabilities are more overweight and obese which led to secondary conditions including fatigue, pain, social isolation, difficulty with activities of daily living, and overall deconditioning.

Slide 4. The lack of physical activity leads to increased obesity among youth with disabilities and was associated with increased television watching, video game playing, and unhealthy behaviors while attempting to lose weight. Other chronic health conditions

related to obesity among youth include asthma, high blood pressure, high cholesterol, diabetes, depression, gastrointestinal problems, joint and bone pain, sleep apnea, liver problems, low self-esteem, Blount's disease, early maturation, and pressure sores

Slide 5. Approximately 47% of adults with disabilities are obese, which is 10% higher than adults without disabilities. In general, the activity level of people with disabilities is inadequate to prevent diseases and other chronic conditions stemming from inactivity. Again, with heart disease being the number one cause of death for people with disabilities.

How Sport Can Make a Positive Impact

Slide 6. People without disabilities typically learn motor skills and an appreciation for being active in their youth through sport and other recreational programs. Although physical activity typically decreases during the transition to adulthood, studies have shown that quality targeted youth programs positively influence physical activity levels into and through adulthood. Conversely, ineffectively designed and conducted youth programs have a negative impact on future physical activity levels due to things such as poor coaching or inappropriate fixation on winning.

Slide 7. People with disabilities experience multiple barriers to becoming more physically active, primarily due to a lack of available recreational and adapted sport programs. The few communities that offer programs for youth with disabilities, tend to focus on competitive adapted sports; including my own program. I was concerned that the competitive aspect of our team may have a negative impact on some of our athletes and wanted to gather information on its impact on them after they become adults. I also

wanted to identify concepts, methods, and best practices that benefit individuals from a long-term health perspective by keeping them engaged in lifetime physical activity.

Slide 8. There are few recreational or sport opportunities for youth with disabilities. Our athletes typically do not fit the profile of Special Olympics or Miracle League participants. This was something mentioned by my study participants. They did want legitimate competition and did not want to be perceived as a charity case. The NWBA is the largest adapted sport organization in the US, yet we only had 47 Junior-Varsity teams and 36 Junior-Prep teams during the 2019 season.

Current Study and Findings/Impact of Youth Adapted Sport

Slide 9. My research consisted of a mixed method study where 50 participants completed a survey online and 12 participants were interviewed one-on-one. The survey was used to help determine the relationship between participating in youth adaptive sport and current physical activity habits and levels of motivation to exercise in adults with disabilities. I measured how active and motivated they are currently as an adult, and also asked several open-ended questions. These questions focused on their adapted youth sport experiences and how they feel it influenced them. The interviews were used to describe the perceptions of their youth adapted sport experiences and how it may have influenced their current physical activity levels and motivation to exercise.

Slide 10. It was found that the most popular adapted sport was wheelchair basketball! What was interesting was the margin of popularity when compared to the other activities, plus it was the only true team sport with significant participation. This is significant for us as coaches and program directors, because we may be the first and only

sport experience that a young person with a disability has. No pressure! For my program, it has been the primary activity. We have offered a few other sports, but nothing has been consistent over the past few years outside of wheelchair basketball.

Slide 11 & 12. When the survey participants were asked what they got out of the adapted sport experience, the two most common themes were fun and community. The pictures on the slide speak for themselves and I believe we should strive to continue to create more of these photo opportunities. Participants made comments such as “it was very fun”, a “fun, positive experience”, “I made a lot of friends”, and “I developed many lifelong friendships”. Here are more of the participants’ comments reflecting this same message. “It was very positive. I made friends who were like me.” “I had a great time and it really helped me feel connected.” “Adaptive sports were an incredibly positive influence on my life.”

Slide 13 & 14. This research showed that the adults with disabilities are highly active and very motivated to stay active. They listed several reasons of why they stay active with maintaining health and physical function and preventing disability being the most popular. They were motivated to exercise by the fun and social aspects of their activities including competitions, but their primary motivation was their personal health. The connection with this to their youth experiences is important because they noted that they had the knowledge, experience, and skills required to exercise on their own. They received these from participating in youth adapted sport. Some of the comments made by the participants included “I want to live a full and active life”, “so I can stay health and

be stronger”, “to keep myself capable of doing things”, and “I’ve made some great friends through being active.”

Slide 15. Many of the ancillary activities that we do became their personal exercise routines once an adult. We often take our athletes out on pushes around the sidewalks of campus. We have them use resistance bands, dumbbells, and medicine balls. We do those things in our program to make them better athletes, but now I realize that it’s much bigger than that because we are teaching them skills for lifelong physical activity. Team sports are much less popular for adults, as most of them are struggling to find the time to exercise. However, many of the participants stated that they learned about working out and other activities while training for and playing team sports like wheelchair basketball.

Slide 16. Interview participants gave similar responses as those who took the survey with 3 major themes being developed. They were 1) Having access to local programs, 2) Maintaining their personal health and fitness, and 3) Normalizing their disability.

Slide 17. Having access to local programs was a common theme among the interview participants. These individuals had access to facilities like the Lakeshore Foundation in Birmingham, AL, or to community programs like LWSRA, just outside of Chicago, IL. For example, Jay said “when I was like 12 or 13, my parents found out about the Lakeshore Foundation having these outreach programs across the state of Alabama... so, I went out to one of their Super-Sport Saturdays and I started playing

tennis first and then my tennis coach was also the junior wheelchair basketball coach”.

Jay is still very physically active and still competes in adapted sport at 32 years old.

Slide 18. Maintaining their personal health and fitness was mentioned by every interview participant as to why they continue to be physically active. What was interesting is that they had experienced the benefits of exercise and easily understood the positive health benefits as they aged. Some left elite competition and felt the ill-effects of inactivity, and this motivated them to remain active. Of further interest is that many of them now choose individual activities like pushing and working out, which they learned as an ancillary activity to their team sport. For example, Jonathon said he exercises “to keep fit; because it's very important for me especially with a disability. I do it because...I realized how much it helped my disability rather than doing nothing at all or just being semi-active. ...I realized how much it meant, the fitness-side of it made a difference and helped me with my movement and with balance and coordination.”

Slide 19. Another major theme brought up among the interview participants was that youth adapted sport seemed to normalize their disability. They were exposed to a larger community where having a disability was the norm. Also, they met and interacted with adults with disabilities that were living otherwise ‘normal’ lives. April said “I was able to meet a lot more friends with disabilities, especially active friends with disabilities, and also a lot of the coaches and volunteers and staff were people with disabilities that were super active, and you know, successful in adulthood.”

Slide 20. As an adult that participated in youth adapted sport, the impact was meaningful to them. Being able to participate as a youth in their own community gave

them a fitness base that they are able to recognize in their life still today. Being surrounded by other youth and adults with disabilities gave them a sense of being part of a larger community and helped to make them feel normal in their bodies.

What We Are Doing Good/Impact of NWBA

Slide 21. I love this slide because this is what we are actually doing. These items are what my research participants received from participating in, primarily, wheelchair basketball. The one thing listed that is not always controllable by us is having access to local programs. This was the single biggest determinant of participation. It sounds obvious, but people can't participate without a program near enough to access.

Slide 22. Youth participants are having a lot of fun. They enjoy the social aspect of sport and get introduced to a larger community of people with disabilities. Many of my study participants noted that they were the only person with a disability at their high school. Adapted sport introduced them to a world of successful adults with disabilities living life to the fullest. They came to terms with their disability and accepted themselves. One participant with a congenital disability stated that he approached his disability as if someone might approach being short or tall. You make adjustments and get accustomed to living a lifestyle of being short, tall, or disabled.

Slide 23. One participant commented that "A lot of the coaches, volunteers, and staff were people with disabilities that were super-active and successful in adulthood, and I think that influenced me". Every person that I interviewed noted several people that made a difference in their life as a youth with a disability. We are making a difference in

the world! Giving back to sport by coaching, volunteering, or mentoring youth with disabilities is paying off and paying dividends for our youth.

Suggestions Moving Forward/Our Future Impact

Slide 24. Remember that not so controllable issue of having local accessible programs? We need to work on that! Without the “Local”, our youth can’t have any of the positive things received from wheelchair basketball. We need to start more youth teams across the country. The NWBA can probably handle the influx, but I’d like to challenge their capacity. We are doing so many things good, but we need to do more of it. With almost 20% of the population having a disability, the need is overwhelming. The status quo for youth with disabilities is inactivity and we must develop methods to combat that. We need to find ways to incentivize new teams and work with new teams to persist in the league through grants and other methods.

Slide 25. New teams will need help. Plus, existing teams need help and may not ask for it. We need to develop resources to help teams with little previous experience. I was lucky enough to have 2 people willing to coach that both had previous wheelchair basketball experience. As I was establishing our program 4 years ago, I was also trying to learn and understand how to play and coach wheelchair basketball. My background is Paratriathlon! I have a limited background in team sports, much less wheelchair sports. We have the resources to provide coaching education and practice drills for those new teams that don’t have former players. This will also allow us to circle back to developing lifelong skills in other activities as we can provide resources on how to train athletes with other modalities such as weights and wheelchair pushing outside. Sport is a more

enjoyable experience if the competition is tight. Let's do better at keeping our brackets seeded tighter at our tournaments. Playing low seeds against high seeds is not and tends to be a negative experience for both teams. We need to provide social opportunities at local and regional tournaments and not just at nationals. The larger community is a big part of the benefit of wheelchair basketball. We can have simple mixers in our regions that expand the disabled community for our athletes, further normalizing their physical function. Let's work together on improving our junior classification system.

Classification is a fact of life as we move into adult and/or elite competition. We can do better at making sure we develop all classifications at the junior level. This has the added benefit of providing more athletes for adult leagues and national teams. Reward athletes and possible entire teams at tournaments for things other than competitiveness. For example, a team spirit award or grit award, would be valuable for those receiving them. Make these legitimate awards and recognize these athletes along with the competitive awards.

Slide 26. One research participant wrote this quote on an open-ended question.

Let's remember all of the good that we are doing currently for our youth. Let that motivate us to spread our influence to those who haven't yet had the opportunity to experience what we have experienced. We can do this!

Slide 27. Thank you for your time, I would like to open the floor for any questions or to discuss potential adjustments that we can consider for the league.

CHAPTER III

ACTION PLAN

The results of this dissertation may provide practical advice for community youth adapted sport programs. Initially, it can provide understanding of what aspects of youth adapted sport provide positive and/or negative experiences. This will allow for immediate changes to be made in coaching techniques to ensure a more positive experience for participants. It will also allow an understanding of common negative experiences that may go unnoticed in youth programs. Immediate action can be made to eliminate these negative experiences and provide participants with a program which encourages lifelong physical activity.

Short-Term Goals

Community-based adapted sport programs aren't that common, and communication methods already exist among these programs including email and social media. Adapted sport national governing bodies are also active in communicating directly to local programs through email, social media, and their websites. This information has a high potential to reach local programs through these communication outlets. In addition, regional sport tournaments host meetings with participating coaches and administrators. The results of this research could be presented in multiple ways including through in-person presentations, webinars, or by providing printed information to participating coaches. The initial plan is to present the findings of this study to the junior division

coaches of the NWBA. There is a junior division meeting each year at the NWBA annual assembly where a large percentage of junior coaches and program directors gather.

I have been accepted to present this research in poster form at the 2019 International Symposium on Adapted Physical Activity (ISAPA, 2019). This international professional conference will be held in Charlottesville, VA on June 14-18, 2019. This conference is not only an opportunity to formally present this research, but provides networking opportunities with other researchers and program coordinators to partner with moving forward. Further, the information provided from this study has been incorporated into my Adapted Physical Education and Teaching Sports courses at my home institution. Future professionals will understand the importance of providing a fun and social-focused program when working with youth, especially those with disabilities. This information is important and relevant to youth recreational and sport programming. Many pre-professional undergraduate students are focused on the competitive aspects of instruction and forget to consider the long-term health implications of their methods as a youth coach or instructor.

I have already begun integrating adapted sport and physical activity into the Foundations of Kinesiology course that I teach each term. Every student in our department is required to take this course, and it is a great opportunity to expose them to adapted sport and working with people with permanent disabilities. Many students have used my program as their internship site to acquire hands on leadership training and I plan to continue to expand those opportunities. This is not only good for our students, but benefits our participants, since increased community programming results. Further,

several students have already used my program and participants for their required senior research projects and I plan to offer more of those opportunities. This allows them to learn research skills in the adapted sport context and introduces them to program participants, which creates relationships with them and demonstrates the need for increased research and programming efforts in this area. As I continue to offer a variety of adapted sport activities, I solicit student volunteers from all of the classes I teach and from the Kinesiology department as a whole. For example, we host local businesses and lead adapted sport team-building activities, which allows our students leadership and networking opportunities. We also offer adapted sport camps and clinics for other special populations such as Beep Baseball for those with visual impairments, and stand-up basketball for youth with autism or other similar disabilities.

Long-Term Goals

The long-term goal is to create change within the junior division of the NWBA specifically and within other national governing bodies where possible. The results of this study are not specific to wheelchair basketball and have implications for positive change in other adapted sports offered to youth with disabilities. I am a part of the NWBA junior division as a program coordinator, coach, and functional classifier and have made many connections over the past 3 years. Further, I have developed relationships with the NWBA junior division board of directors and employees and am well-respected as someone who is positive and wants the league to improve its service to youth with disabilities through my research and volunteer activities. Utilizing the results of this study will provide direction on how to better study and disseminate specific aspects of adapted

sport coaching. Developing coaching workshops or other resources could be accomplished and will be helpful to these individuals who are typically volunteers and have minimal training, if any. This may lead to research or developing models on specific adapted sport coaching behaviors recommended by Paralympic national governing bodies. Other areas of research will be to measure the fitness level required during adapted sport practice sessions versus game play. An area for qualitative research will be to understand the perceptions and expectations of parents with children playing adapted sport and how that may help or hinder the young athlete's motivation to continue with sport. This line of research would also help coaches and program coordinators to better understand the diversity of expectations from parents and players, and how to best operate in this situation.

I have already spoken with the NWBA and received initial permission to research the persistence patterns of their membership. This would include analyzing the various types of disabilities and functional classifications across the league, and compare and contrast those between the junior divisions and adult divisions. If certain patterns or disparities exist, then it may show that certain disabilities or functional classification levels are less likely to transition to playing in the adult leagues. Findings would be shared and addressed with the NWBA in order to consider any needed changes in the junior leagues. This would serve to better encourage and promote more youth players transitioning to the adult leagues. Finally, longitudinal studies of 5 or more years are needed for organized adapted youth sport to determine the best predictors of lifetime

physical activity (Murphy, Rowe, & Woods, 2016; Telama, Xiaolin, Hirvensalo, & Raitakari, 2006).

At my home institution, I have already developed relationships and began advocating for increased resources and offerings for our students with disabilities. I have previously offered wheelchair basketball as an inclusive sport with the Campus Recreation Intramural program. Long term goals would be to increase these offerings and utilize various types of adapted sport. To create more need for intramural adapted sports, I have developed relationships with our Disability Support Services Director and our Vice President for Diversity, Equity, and Inclusion. I keep these individuals abreast of what I am doing for the community and the need for increased higher education opportunities and physical activities for students with disabilities. I frequently high-light what other institutions are doing and advocate that we offer similar activities since we are already doing it for the community. In the future, I plan to propose various funding sources for these activities as lack of budget is typically cited as rationale for not moving forward. Finally, I plan to have a university-based Paralympic sport team depending on the needs of the students being attracted to our institution. There are only eleven universities in the US offering collegiate wheelchair basketball and, to my knowledge, is the only adapted sport with a collegiate division (NWBA, 2019). However, other sports may be a better fit and a collegiate-only league is not necessary. Paralympic sports like Boccia, have an interest in developing emerging elite athletes and, as an individual sport with minimal needed equipment, will be less expensive to offer.

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APPENDIX A

CONSENT TO ACT AS A HUMAN PARTICIPANT

Project Title: The Impact of Youth Adapted Sport on Physical Activity Habits of Adults with Disabilities

Principal Investigator and Faculty Advisor (if applicable): David Kyle (PI), Dr. Pam Brown (Faculty Advisor)

What are some general things you should know about research studies?

You are being asked to take part in a research study. Your participation in the study is voluntary. You may choose not to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. There may not be any direct benefit to you for being in the research study. There also may be risks to being in research studies. If you choose not to be in the study or leave the study before it is done, it will not affect your relationship with the researcher or the University of North Carolina at Greensboro. Details about this study are discussed in this consent form. It is important that you understand this information so that you can make an informed choice about being in this research study.

You will be given a copy of this consent form. If you have any questions about this study at any time, you should ask the researchers named in this consent form. Their contact information is below.

What is the study about?

This is a research project to better understand how participating in adapted sport as a youth may influence future physical activity levels during adulthood. Your participation is voluntary.

Why are you asking me?

To participate in this research study, you must be at least 21 years old and have a congenital physical disability. Examples of this may include (but are not limited to) spina bifida, cerebral palsy, visual impairment, or muscular dystrophy. Persons with an acquired disability due to injury or disease will not be included in this particular study.

What will you ask me to do if I agree to be in the study?

This research study consists of completing the questionnaires that follow. It will take approximately 20 minutes of your time to complete them. A follow up interview will be requested of a few participants. If interested in this aspect of the study, you will have the opportunity to volunteer to be interviewed later within this questionnaire. If you have any

questions about this study or your participation in it, please contact the principle investigator, David Kyle, by phone at 256-824-2186, or by email at dlkyle@uncg.edu.

Is there any audio/video recording?

Audio/video recording will be used only for those opting for the personal interview, which is separate from this questionnaire. Because your voice will be potentially identifiable by anyone who hears the interview recording, your confidentiality for things you say on the recording cannot be guaranteed although the researcher will try to limit access to the recording as described below.

What are the risks to me?

The Institutional Review Board at the University of North Carolina at Greensboro has determined that participation in this study poses minimal risk to participants. If you have questions, want more information or have suggestions, please contact the principle investigator, David Kyle, by phone at 256-824-2186, or by email at dlkyle@uncg.edu. The faculty advisor for this research study is Dr. Pam Brown who may be reached at plkocher@uncg.edu.

If you have any concerns about your rights, how you are being treated, concerns or complaints about this project or benefits or risks associated with being in this study please contact the Office of Research Integrity at UNCG toll-free at (855)-251-2351.

How will you keep my information confidential?

All information gathered for this study will be anonymous and will not include any identifiable information. All data will be stored on a password-protected computer using dual-protection log in methods. **Absolute confidentiality of data provided through the Internet cannot be guaranteed due to the limited protections of Internet access. Please be sure to close your browser when finished so no one will be able to see what you have been doing.**

What if I want to leave the study?

You have the right to refuse to participate or to withdraw at any time, without penalty. If you do withdraw, it will not affect you in any way. If you choose to withdraw, you may request that any of your data which has been collected be destroyed unless it is in a de-identifiable state. The investigators also have the right to stop your participation at any time. This could be because you have failed to follow instructions, or because the entire study has been stopped.

What about new information/changes in the study?

If significant new information relating to the study becomes available which may relate to your willingness to continue to participate, this information will be provided to you.

Voluntary Consent by Participant:

By completing this survey, you agree that you are 18 years of age or older, and are agreeing that you read, or it has been read to you, and you fully understand the contents of this document and are openly willing to consent to take part in this study.

APPENDIX B

EMAIL RECRUITING SCRIPT

Hello,

My name is David Kyle and I'm the director of the Ability Sport Network at The University of Alabama in Huntsville where I run a youth wheelchair basketball team. I'm also a doctoral candidate in Kinesiology at The University of North Carolina at Greensboro. I am conducting research on the impact of youth adapted sport on the physical activity habits of adults with disabilities. I am contacting you today to invite you to participate in this research since you are someone experiencing a disability. I would like to understand what impact sport and exercise programs that you participated in as a youth may have had on you now as an adult. The information I collect will be used to better evaluate current youth programs and possible research publication.

Participating in this research includes taking an online survey about your experiences in adapted sport or other physical activities during your time as a youth prior to turning 21 years of age. The survey will take approximately 20 minutes. Participating in this study means that your answers will be used for data analysis, but there will be no way of knowing who provided the answers. Your confidentiality is important, and I will not have access to any personally identifiable information if you participate in the survey.

If you have any questions, I can be reached by telephone at 256-824-2186 or by email at dlkyle@uncg.edu.

If you would like to participate in this research, please fill out the questionnaire located online at this [LINK](#).

Thank you,
David

APPENDIX C

EMAIL RECRUITING FOLLOW-UP SCRIPT

Hello,

I previously contacted you concerning participating in research on the impact of youth adapted sport on the physical activity habits of adults with disabilities. I am contacting you again to invite you to participate in this research since you are someone experiencing a disability.

Participating in this research includes taking an online survey about your experiences in adapted sport or other physical activities during your time as a youth prior to turning 21 years of age. The survey will take approximately 20 minutes. Participating in this study means that your answers will be used for data analysis, but there will be no way of knowing who provided the answers. Your confidentiality is important, and I will not have access to any personally identifiable information if you participate in the survey.

If you have any questions, I can be reached by telephone at 256-824-2186 or by email at dlkyle@uncg.edu.

If you would like to participate in this research, please fill out the questionnaire located online at this [LINK](#).

APPENDIX D

IN-PERSON RECRUITING SCRIPT

Hello,

My name is David Kyle and I'm the director of the Ability Sport Network at The University of Alabama in Huntsville where I run a youth wheelchair basketball team. I'm also a doctoral candidate in Kinesiology at The University of North Carolina at Greensboro. I am conducting research on the impact of youth adapted sport on the physical activity habits of adults with disabilities. I would like to invite you to participate in this research since you are someone experiencing a disability. I would like to understand what impact sport and exercise programs that you participated in as a youth may have had on you now as an adult. The information I collect will be used to better evaluate current youth programs and possible research publication.

Participating in this research includes taking an online survey about your experiences in adapted sport or other physical activities during your time as a youth prior to turning 21 years of age. The survey will take approximately 20 minutes. Participating in this study means that your answers will be used for data analysis, but there will be no way of knowing who provided the answers. Your confidentiality is important, and I will not have access to any personally identifiable information if you participate in the survey.

Do you have any questions? If you have questions in the future, I can be reached by telephone at 256-824-2186 or by email at dlkyle@uncg.edu. This contact info is available on my business card.

APPENDIX E
SURVEY QUESTIONS

1. Age: _____ years.
2. Sex: Male / Female
3. What is your physical disability(s)? _____
4. Did you participate in Adapted Physical Education during elementary, middle, or high school? Yes / No
5. What types of activities did you do during Adapted PE?

6. What did you get out of the Adapted PE experiences? Was it fun, positive, negative?

7. Did you participate in organized Adapted Sport as a youth (less than 21 yrs old) outside of school time? Examples include wheelchair basketball, seated volleyball, swimming, etc. Yes / No
8. At what ages did you participate in Adapted Sport?

9. What types of Adapted Sport did you participate in?

10. What did you get out of the Adapted Sport experiences? Was it fun, positive, negative?

11. Did you participate in other types of physical activity or recreation as a youth (less than 21 yrs old) outside of school time that you have not already mentioned?

Examples may include cycling, handcycling, canoeing, or non-adapted sports done inclusively.

12. Are you currently active now as an adult? Yes / No

13. Please list all sports, exercise, or recreational activities that you currently participate in.

14. Why do you choose to be active/inactive now as an adult?

15. What types of barriers do you experience that prevents you from being more physically active?

16. What are some things you experience that encourages you to be more physically active?

17. How important is it for you to be physically active? Select 1-5
(Not important) 1 2 3 4 5 (Very important)

18. How physically active are you currently? Select 1-5
(Not active) 1 2 3 4 5 (Very active)

19. Overall, how active were you before the age of 21? Select 1-5
(Not active) 1 2 3 4 5 (Very active)

Are you interested in being interviewed personally?

If so, please list your email: _____.

The results of this questionnaire will not be identifiable if you choose to provide your contact information.

APPENDIX F

INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE

We are interested in finding out about the kinds of physical activities that people do as part of their everyday lives. The questions will ask you about the time you spent being physically active in the **last 7 days**. Please answer each question even if you do not consider yourself to be an active person. Please think about the activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise or sport.

Think about all the **vigorous** activities that you did in the **last 7 days**. **Vigorous** physical activities refer to activities that take hard physical effort and make you breathe much harder than normal. Think *only* about those physical activities that you did for at least 10 minutes at a time.

1. During the **last 7 days**, on how many days did you do **vigorous** physical activities like heavy lifting, digging, aerobics, or fast bicycling/handcycling?

_____ **days per week**

☐

No vigorous physical activities



Skip to question 3

2. How much time did you usually spend doing **vigorous** physical activities on one of those days?

_____ **hours per day**

_____ **minutes per day**

☐

Don't know/Not sure

Think about all the **moderate** activities that you did in the **last 7 days**. **Moderate** activities refer to activities that take moderate physical effort and make you breathe somewhat harder than normal. Think *only* about those physical activities that you did for at least 10 minutes at a time.

3. During the **last 7 days**, on how many days did you do **moderate** physical activities like carrying light loads, bicycling/handcycling at a regular pace, or doubles tennis? Do not include walking.

_____ **days per week**

☐

No moderate physical activities



Skip to question 5

4. How much time did you usually spend doing **moderate** physical activities on one of those days?

_____ **hours per day**

_____ **minutes per day**

☐ Don't know/Not sure

Think about the time you spent **walking or pushing wheelchair** in the **last 7 days**. This includes at work and at home, walking to travel from place to place, and any other walking/pushing that you have done solely for recreation, sport, exercise, or leisure.

5. During the **last 7 days**, on how many days did you **walk/push** for at least 10 minutes at a time?

_____ **days per week**

☐ No walking/pushing → **Skip to question 7**

6. How much time did you usually spend **walking/pushing** on one of those days?

_____ **hours per day**

_____ **minutes per day**

☐ Don't know/Not sure

The last question is about the time you spent **sitting** on weekdays during the **last 7 days**. Include time spent at work, at home, while doing course work and during leisure time. This may include time spent sitting at a desk, visiting friends, reading, or sitting or lying down to watch television.

7. During the **last 7 days**, how much time did you spend **sitting** on a **week day**?

_____ **hours per day**

_____ **minutes per day**

☐ Don't know/Not sure

APPENDIX G

BEHAVIOURAL REGULATION IN EXERCISE QUESTIONNAIRE (BREQ-3)

WHY DO YOU ENGAGE IN EXERCISE?

We are interested in the reasons underlying peoples' decisions to engage or not engage in physical exercise. Using the scale below, please indicate to what extent each of the following items is true for you. Please note that there are no right or wrong answers and no trick questions. We simply want to know how you personally feel about exercise. Your responses will be held in confidence and only used for our research purposes.

		Not true for me		Sometimes true for me	Very true for me	
1	It's important to me to exercise regularly	0	1	2	3	4
2	I don't see why I should have to exercise	0	1	2	3	4
3	I exercise because it's fun	0	1	2	3	4
4	I feel guilty when I don't exercise	0	1	2	3	4
5	I exercise because it is consistent with my life goals	0	1	2	3	4
6	I exercise because other people say I should	0	1	2	3	4
7	I value the benefits of exercise	0	1	2	3	4
8	I can't see why I should bother exercising	0	1	2	3	4
9	I enjoy my exercise sessions	0	1	2	3	4
10	I feel ashamed when I miss an exercise session	0	1	2	3	4
11	I consider exercise part of my identity	0	1	2	3	4
12	I take part in exercise because my friends/family/partner say I should	0	1	2	3	4
13	I think it is important to make the effort to exercise regularly	0	1	2	3	4
14	I don't see the point in exercising	0	1	2	3	4
15	I find exercise a pleasurable activity	0	1	2	3	4

16	I feel like a failure when I haven't exercised in a while	0	1	2	3	4
17	I consider exercise a fundamental part of who I am	0	1	2	3	4
18	I exercise because others will not be pleased with me if I don't	0	1	2	3	4
19	I get restless if I don't exercise regularly	0	1	2	3	4
20	I think exercising is a waste of time	0	1	2	3	4
21	I get pleasure and satisfaction from participating in exercise	0	1	2	3	4
22	I would feel bad about myself if I was not making time to exercise	0	1	2	3	4
23	I consider exercise consistent with my values	0	1	2	3	4
24	I feel under pressure from my friends/family to exercise	0	1	2	3	4

APPENDIX H

INTERVIEW GUIDE

I'm David Kyle and I'm a doctoral student at the University of North Carolina at Greensboro. Thank you for taking time to meet with me today. Before we start, I'd like to explain the purpose of this interview. I am interested in learning about your experiences of participating in (adapted sport/wheelchair basketball) when you were a youth.

I would like to understand what impact the (programs-that you participated in as a youth) may have had on you now as an adult. The information I collect will be used to better evaluate current youth programs and possible research publication. Anything that you say will be kept strictly confidential. I will transcribe this conversation and any identifiable information will be removed. Your name will be replaced with a pseudonym, so feel free to respond in an open and honest manner. The interview should not take any longer than 30 minutes.

Your participation in this interview is entirely optional. You don't have to participate and there is no penalty for not participating. If we start and you decide to stop halfway through, that is okay, you can stop at any time. I will be taking notes throughout the interview. This helps keep me organized and ensures the interview is streamlined and efficient. I am also recording our conversation and it will be deleted after it is transcribed. Further, if you decide that something you said is inappropriate and shouldn't be used, I will delete the recording immediately.

Do you have any questions about the interview or any of the other information I've already covered?

Is it okay to begin?

Current physical activity as an adult

1. At this stage in your life tell me what being physically active means to you.
2. Tell me about the types of PA that you engage in currently.
 - a. What are your favorite types of (exercise/sports)?
 - b. Why do you participate in this particular (exercise/sport)?
3. How did you get involved with that (activity mentioned in 2)?

Physical activity experiences as a youth

4. Tell me about the types of (PA/adapted sport) that you were involved in as a youth outside of school time (do not include PE/APE).

5. How did you get involved with that particular activity?
6. How did participating in these activities make you feel? Why did it make you feel that way?
7. What were some positives and/or negatives about these (activities/playing youth adapted sport)?
8. Did someone help make it fun-positive/not fun-negative? If yes, who?
9. What did the (coach/instructor) do to make it fun/enjoyable or not fun/not enjoyable?

Relating youth experiences to adulthood physical activity

10. Do you feel that there are any connections to how active you are now to the (activities/sports) that you participated in as a youth?
11. Can you describe how those connections may be influencing you now (either in a positive or negative manner)?
12. Do you believe that participating in adapted sport as a youth has led you to be more active as an adult?
 - a. Can you describe how it has/has not done so?

Closing Questions

13. Anything else that we didn't discuss that may have impacted you in some way?
14. What else could help frame your ideas of physical activity currently?

APPENDIX I

INTERVIEW PARTICIPANTS

1. Jay, 32, Male

Jay has spina bifida and was introduced to various adapted sports by participating in a “Super-sport Saturday” at a local program at 13 years old. He became very active with wheelchair tennis and wheelchair basketball and continues to play wheelchair basketball as an adult. Jay is a college faculty member in Kinesiology.

2. Al, 55, Male

Al became a paraplegic at 11 months old due to an injury. He was introduced to adapted sports at 14 years old with a local program. He participated in Track and Field, Swimming, and Wheelchair Basketball. As an adult, he is a Hall of Fame wheelchair basketball player and actively participates in Bowling and Water Fitness activities.

3. Zack, 37, Male

Zack has spastic Quadriplegia Cerebral Palsy and began playing wheelchair basketball, Track and Field, and Boccia at a local program beginning at 11 years old. He played wheelchair basketball at the collegiate level and also played wheelchair rugby as an adult. He continues to be active and has a leadership role with a US Paralympic National Governing Federation.

4. Doug, 35, Male

Doug has spastic Diplegia Cerebral Palsy and was introduced to wheelchair basketball through his local school at 14 years old. He went on to play collegiately and continues to play wheelchair basketball in the fall and spring and plays wheelchair softball in the summer.

5. April, 36, Female

April has spina bifida and began taking wheelchair tennis lessons at the age of 5. She also regularly played wheelchair handball and wheelchair basketball as a youth. As an adult, she is active in Zumba, 5K's, adaptive rock climbing, and adaptive snow skiing. She is also a program director for an adaptive sport program.

6. Bill, 49, Male

Bill became a quadrilateral amputee at 9 years old and got involved with wheelchair basketball while attending college. As an adult, he went on to play wheelchair rugby in the Paralympics. He continues to compete in wheelchair rugby, and is also involved in swimming, 5K's, and general working out. He works for a national organization that promotes physical activity for people with disabilities.

7. Michael, 39, Male

Michael has spastic Diplegia Cerebral Palsy and got involved with several adapted sports as a child at a local program. He participated in adaptive basketball, Track and Field, and adaptive Tennis. As an adult, he represents Team USA as an international competitor in Boccia. He works at a local adaptive sports program.

8. Jonathon, 46, Male

Jonathon has spastic Hemiplegia Cerebral Palsy and got involved with soccer, cycling and running while in elementary school. His youth sport experiences were inclusive due to a lack of available local programs. As an adult, he represented Great Britain internationally in the sport of Paratriathlon. He operates his own business within the bicycling and camping industry.

9. Paul, 33, Male

Paul has spastic Quadriplegia Cerebral Palsy and played adapted T-ball and wheelchair basketball in his elementary school. As an adult, he represents Team USA as an international competitor in Boccia.

10. Elizabeth, 34, Female

Elizabeth has spastic Diplegia Cerebral Palsy and got involved with downhill snow skiing, sled hockey, and wheelchair basketball in her youth at a local program. As an adult, she has represented Team USA at international competitions in Paratriathlon and is currently very active in adaptive rowing.

11. Sarah, 24, Female

Sara has spastic Diplegia Cerebral Palsy and got involved with youth adapted sport at a local program. She competed in swimming, wheelchair basketball, and track and field. She went on to play collegiate wheelchair basketball and as an adult, enjoys working out with weights. She also volunteers as a youth wheelchair basketball coach and is employed in the occupational therapy field.

12. Emma, 36, Female

Emma has had paraplegia since birth and started playing adapted sport at 13 years old where she participated in wheelchair basketball, wheelchair tennis, and track and field. She went on to play collegiate wheelchair basketball and represented Team USA in the Paralympics. She is currently a volunteer wheelchair basketball coach and works in the healthcare industry.

APPENDIX J

OPEN-ENDED QUESTIONS THEMES

What did you get out of the Adapted Sport Experiences?

<u>Major Themes</u>	<u>Sample Participant Responses</u>
Fun	<i>I got to travel</i> <i>Very positive experience</i> <i>Very fun</i> <i>It was very fun and good</i> <i>All positive</i> <i>I had a great time</i> <i>It was a fun and competitive experience</i> <i>It was amazing</i>
Social	<i>Introduced to great mentors</i> <i>Really supportive community</i> <i>Able to communicate better</i> <i>More functional in society</i> <i>Feel more comfortable in a wheelchair</i> <i>Life altering, I see myself in a whole new way</i> <i>To be part of a team</i> <i>I've made a lot of friends</i> <i>Got to meet amazing people who are like family now</i> <i>Disability became normalized</i> <i>I got to be on a team like "everyone else"</i> <i>I learned to be a team player and a leader</i> <i>It helped me feel connected</i>

Why do you choose to be active/inactive now as an adult?

Major Themes

Sample Participant Responses

Health

I want to avoid secondary conditions
I want to live a full, active life
My muscles are very much “use them or lose them”
To improve and maintain my health
I feel better when I’m active
To keep myself capable of doing things
If I become inactive, I get depressed
So I can stay healthy and be stronger
I know if I stop I’ll be at greater risk of disease
To prevent loss of function
To remain mobile and independent
Health and quality of life
Overall health and wellness
I love being physically fit and being healthy
Physical, mental, and emotional health
I need to maintain my strength, flexibility, and mobility to prevent further injury

Fun

I enjoy being an active person
I find it fun and rewarding
I enjoy staying in shape and the competition
It’s fun and keeps me going and very motivated

Social

It gives me a social outlet
If I wasn’t active, I’d be bored
I’ve made some great friends through being active

Barriers

I’ve been busy with other things
Time constraints
It’s hard for me to get places
Fear of worsening my joints and pain
There is nothing for the disabled where I live
There are no teams in my area
Lack of programming for adults with disabilities

What prevents you from being more physically active?

<u>Major Themes</u>	<u>Sample Participant Responses</u>
Lack of Time	<i>Time constraints</i> <i>Full-time job</i> <i>School</i> <i>Work hours</i> <i>Family obligations</i> <i>Lack of time to travel to participate</i>
Access Issues	<i>Lack of local opportunities</i> <i>Money</i> <i>I don't feel comfortable driving long distances</i> <i>The biggest hindrance has been transportation</i> <i>This area is not great for disabilities</i> <i>Lack of programs</i> <i>Finances</i>
Disability/Health Issues	<i>Fear of worsening my health</i> <i>Pressure sores</i> <i>Bad shoulders</i> <i>Excess weight</i> <i>Fatigue</i> <i>Disabilities and injuries prevent me from being active</i> <i>Prosthetic issues</i> <i>I can't be independent without help of an aide</i>

What encourages you to be more physically active?

Major Themes

Sample Participant Responses

Remaining Healthy

My desire to live a long and healthy life
My knowledge of the consequences of inactivity
The desire to be healthy and stay fit
Improving myself
To be healthier
Being active has kept me healthy
To maintain my balance and independence
Seeing positive results physically, mentally, and socially
I feel better when I work out
Increase my longevity
Health benefits, increased energy
How good my body feels when I'm in shape
Mental health improves when I'm active
I do a lot of sitting at work due to my disability

Social/Competition

Seeing friends, being around them
My family
My friends are also involved
When I set a goal to do a race, it motivates me
Community
Exercise buddy with similar abilities as me
Being connected
Commitment to a team
Having friends who refuse to let me be inactive
My competitive nature and desire to get better
Encouragement from others
Competition
I really want to be in the Paralympics one day
Camaraderie with fellow athletes

APPENDIX K
INTERVIEW THEMES

Current Physical Activity as an Adult

1. At this stage in your life tell me what being physically active means to you.

Major Themes: Health, Social aspects

2. Tell me about the types of physical activity that you engage in currently.

Major Themes: Working out, Running/Pushing, Stretching, Cycle/Handcycle,
Wheelchair Basketball, Boccia

- a. Why do you participate in this particular activity/sport?

Major Themes: Health and fitness, Social aspects, Fun, To maintain function

3. How did you get involved with that particular activity?

Major Theme: Local programs that were nearby and accessible

Physical Activity Experiences as a Youth

4. Tell me about the types of physical activity and adapted sport that you were involved with as a youth outside of school time.

Major Themes: Wheelchair basketball, Track and field, Swimming, Wheelchair tennis

5. How did you get involved with that particular activity?

Major Themes: Local programs that were nearby and accessible

6. How did participating in these activities make you feel?

Major Themes: Fun, The Competitive aspect, Normalized disability

7. What were some positives or negatives about these activities?

Major Positive Themes: Normalized disability, Adults w/disabilities became role models,
Improved skills

Major Negative Theme: Lower functioning individuals weren't played as often as others in team sport contexts (one participant)

8. Did someone help make it fun, positive and/or not fun, negative? Who?

Major Themes: Adapted sport coaches, Adapted program coordinators, Adapted PE teachers, PE teachers

9. What did your coach do to make it fun, positive and/or not fun, negative?

Major Themes: Encouraging, Role modeling, Made it fun, Taught skills, Challenged me

Relating Youth Experiences to Adulthood Physical Activity

10. Do you feel that there are any connections to how active you are now to the (activities/sports) that you participated in as a youth?

11. Can you describe how those connections may be influencing you now (either in a positive or negative manner)?

Major Themes: It became a normal part of my lifestyle, Gave me a competitive outlet

12. Do you believe that participating in adapted sport as a youth has led you to be more active as an adult?

Major Themes: Yes, Led to college adapted sport which had a much larger influence, Led to participating in other types of physical activities including working out

13. Anything else that we didn't discuss that may have impacted you in some way?

Major Themes: Opportunities gained from youth adapted sport opened doors to other opportunities which include other sports and activities, and career fields. The spiritual aspects (God's plan for life). Using exercise for emotional benefits

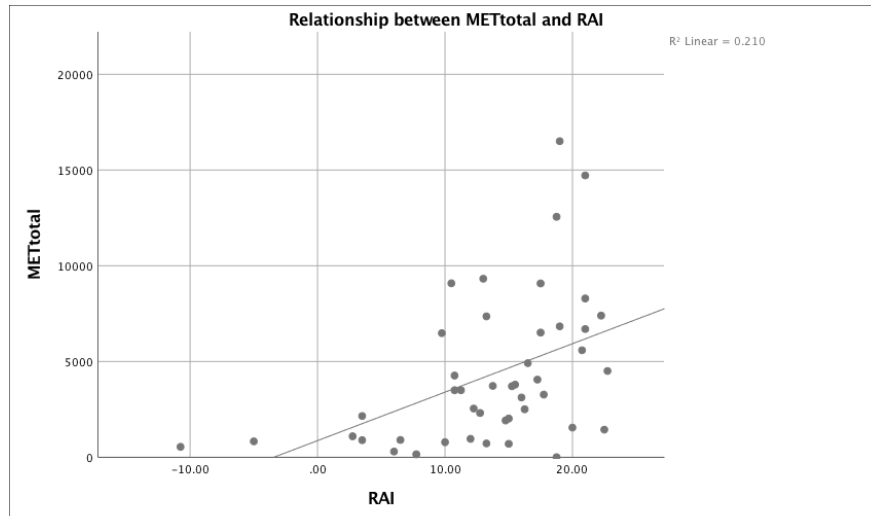
14. What else could help frame your ideas of physical activity currently?

Major Themes: Being active is now my lifestyle. Now more focused on the health aspect and preventing disability progression. I still enjoy doing it.

Major Theme Across Various Questions (Parental involvement): Parents had the time and money for the equipment and travel required to participate in adapted sport. Parents could afford taking off work, had the flexibility to do so, gas money to drive places. Parents treated them as normal, had high expectations, and included them in family physical activities. Parents did the groundwork of finding nearby available programs.

APPENDIX L

RELATIONSHIP BETWEEN MET-TOTAL AND RAI



APPENDIX M

DISSEMINATION PRESENTATION



The Impact of Youth Adapted Sport on
Physical Activity of Adults
with Disabilities

David L. Kyle



Personal Information

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*Research interests include youth adapted sport and lifelong
physical activity for people with disabilities



Find your way here

Personal Impact of Disability

- Youth w/disabilities are 4.5 times more inactive than their non-disabled peers
- They are more overweight and obese, which leads to:
 - Fatigue
 - Pain
 - Social isolation
 - Difficulty with activities of daily living
 - general deconditioning

3



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Personal Impact of Disability

- In youth w/disabilities, the lack of physical activity and increased obesity leads to:
 - Increased television watching
 - Video game playing
 - Asthma
 - High blood pressure
 - High cholesterol
 - Diabetes
 - Depression
 - GI problems
 - Bone and joint pain
 - Sleep apnea
 - Liver problems
 - Low self-esteem

4



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Personal Impact of Disability

- 47% of adults w/disabilities are obese
 - This is 10% higher than people without disabilities
- Activity levels are not high enough to prevent disease and other chronic conditions
- Heart disease is the leading cause of death

5



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Positive Impact of Sport

- People without disabilities learn motor skills and appreciate physical activity in their youth through sport and recreation
- Physical activity decreases during transition into adulthood
- Targeted programs can reverse that trend and create physical activity persistence
 - Ineffectively designed and conducted youth programs have a negative impact on future physical activity levels!

6



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Positive Impact of Sport

- People with disabilities typically do not experience these benefits because of limited opportunities to participate in adapted sport or other recreational activities as youth
- Does the competitiveness of wheelchair basketball have a negative impact on our athletes from a long-term health perspective?

7



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Positive Impact of Sport

- There are few opportunities for youth with physical disabilities as they don't typically fit the Special Olympics profile
- NWBA is largest organization yet only has 36 junior-prep teams and 47 junior-varsity teams.
- There are few outlets to play WCBB or other adapted sports outside of the existing federations.
- Youth interested in sport (WCBB) have one main option, play in the league

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Impact of Youth Adapted Sport

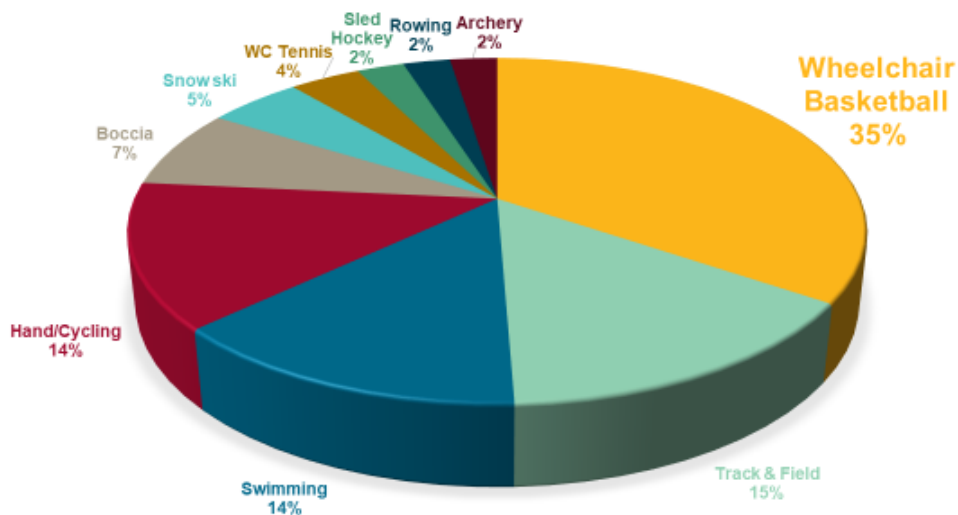
- Mixed method study
 - 50 survey participants, 12 interview participants
- **Aim #1** – Determine the relationship between participating in youth adaptive sport and current physical activity habits and levels of motivation to exercise in adults with disabilities.
- **Aim #2** - Describe the perceptions of youth adapted sport experiences and its influence on current physical activity levels and motivation to exercise in adults with disabilities.

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MOST COMMON YOUTH ADAPTED SPORTS



10



Find your way here

Most common themes from the Adapted Sport experience



"It was very fun!"

"Confidence, pride, positive, and always fun!"

"Fun, positive experience!"

"I got to be on a team like everyone else"

"I made a lot of friends!"

"Able to communicate better socially."

"I developed many lifelong friendships"



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Most common themes from the Adapted Sport experience

Participant comments:

"It was very positive. I made friends who were like me."

"I had a great time and it really helped me feel connected."

"Adaptive sports were an incredibly positive influence on my life."

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Impact of Youth Adapted Sport

- Adults w/disabilities that were active were also highly motivated to remain active
 - Maintain health and physical function
 - Prevent disability progression
 - Still appreciated the fun/social and competitive aspect
- Had personal experience with being fit and were motivated and knowledgeable on how to become more fit.

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Impact of Youth Adapted Sport

Participant comments:

"I want to live a full and active life."

"...so I can stay healthy and be stronger."

"To keep myself capable of doing things."

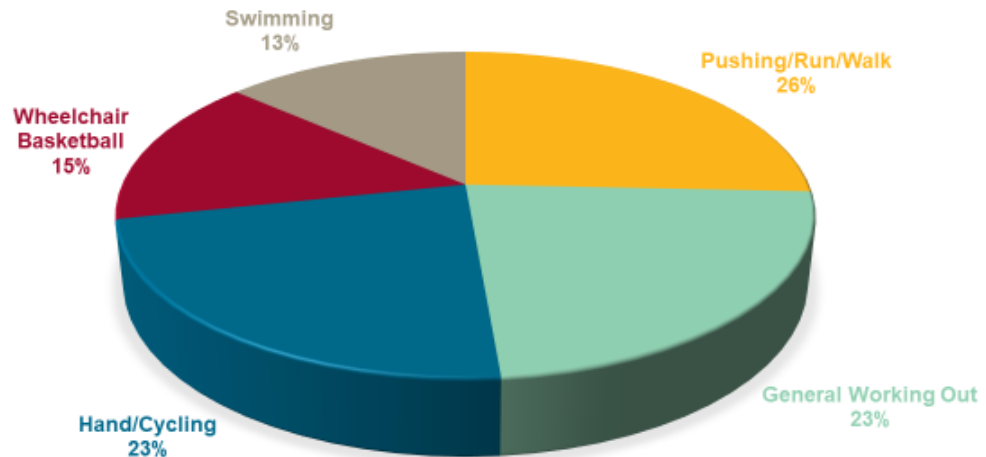
"I've made some great friends through being active."

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MOST COMMON PHYSICAL ACTIVITIES AS AN ADULT



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Impact of Youth Adapted Sport

1. Access to local programs
2. Maintaining their personal health and fitness
3. Normalizing their disability

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Impact of Youth Adapted Sport

1. Access to local programs

"When I was like 12 or 13, my parents found out about the Lakeshore Foundation having these outreach programs across the state of Alabama... so, I went out to one of their Super-Sport Saturdays and I started playing tennis first and then my tennis coach was also the junior wheelchair basketball coach..."

-Jay

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Impact of Youth Adapted Sport

2. Maintaining their personal health and fitness

"To keep fit; because it's very important for me especially with a disability. I do it because...I realized how much it helped my disability rather than doing nothing at all or just being semi-active...I realized how much it meant; the fitness-side of it made a difference and helped me with my movement and with balance and coordination."

-Jonathon

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Impact of Youth Adapted Sport

3. Normalizing their disability

"I was able to meet a lot more friends with disabilities, especially active friends with disabilities and also a lot of the coaches and volunteers and staff were people with disabilities that were super active, and you know, and um, successful in adulthood."

-April

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Impact of Youth Adapted Sport

1. Access to local programs
2. Maintaining their personal health and fitness
3. Normalizing their disability

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Impact of NWBA

- Fun!!!!
- Social/Community
- Role modeling: From Coach's & Program Director's
- Encouraging independence and hard work
- Normalizing disability: Accepting themselves
- Teaching motor skills: These carry over into life

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Impact of NWBA

- Participant comment:

"A lot of the coaches, volunteers, and staff were people with disabilities that were super-active and successful in adulthood, and I think that influenced me."

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Our Future Impact

- MORE TEAMS!!!



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Our Future Impact

- Coach education and resources
- Teach lifelong physical activity skills
- Keep brackets as close as possible at tournaments
- Provide social opportunities at local tournaments
- Continue to improve the junior classification system
- Reward athletes/teams for things other than competitiveness

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Our Future Impact

- Participant quote:

"Society has minimal expectations for individuals with disabilities, but sport filled the void. Additionally, sport gave me confidence in my body. I was able to see my body as strong and capable. It was enough--not broken and in need of repair."

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Thank you!

- Any Questions?

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